PLUMBING ABBREVIATIONS LITER PER SECOND L/S AREA DRAIN LABORATORY AIR ABOVE FINISH FLOOR LAVATORY LAV ABOVE FINISH GRADE LBS/HR POUNDS PER HOUR LCW LABORATORY COLD WATER ACCESS PANEL LHW LABORATORY HOT WATER AUTOMATIC SPRINKLER LABORATORY HOT WATER RETURN ADJUSTABLE SPEED DRIVES LIQUID NATURAL GAS AUTOMATIC SPRINKLER DRAIN LIQUID OXYGEN ASHRAE AMERICAN SOCIETY HEATING, LABORATORY VACUUM REFRIGERATION, AIR CONDITIONING LABORATORY WASTE ENGINEERS LABORATORY WASTE VENT AMERICAN SOCIETY MECHANICAL ENGINEERS METER ASPE AMERICAN SOCIETY PLUMBING MEDICAL AIR ENGINEERS MANUAL AIR VENT AUTOMATIC SPRINKLER RISER 1000 BTUH MBH ACID VENT MED MEDICAL ACID WASTE MECHANICAL EQUIPMENT ROOM MANHOLF PRESSURE BACKFLOW PREVENTER MEMORANDUM OF UNDERSTADING MOP SERVICE BASIN BREAK HORSEPOWER BLACK STEEL PIPE MEDICAL VACUUM BATHTUB BRITISH THERMAL UNIT BTUH BRITISH THERMAL UNIT PER HOUR NEW. NEW WORK NITROGEN NITROUS OXIDE CELSIUS NORMALLY CLOSED COMPRESSED GAS ASSOCIATION NATURAL GAS CAST IRON NOT IN CONTRACT CLEANOUT NORMALLY OPEN CLINICAL SINK NOM. NOMINAL CONTROL VALVE NPW NON POTABLE WATER NOT TO SCALE DEMOLISH AND REMOVE OXYGEN DOMESTIC COLD WATER ON CENTER DOMESTIC HOT WATER OUTSIDE DIAMETER DOMESTIC HOT WATER RETURN OFD OVERFLOW DRAIN DOMESTIC WATER RETURN DHWS OPERATING ROOM DOMESTIC HOT WATER SUPPLY OVFL OVERFLOW DEIONIZED WATER DEPARTMENT OF ENERGY PASCAL DOWNSPOUT PRESSURE DROP OR DIFFERENCE DRAIN TILE PLUMBING AND DRAINAGE INSTITUTE DISHWASHER PRESSURE GAGE DRAWING PLUMBING PUMP DOMESTIC WATER HEATER PARTS PER MILLION DRINKING WATER RETURN PRESSURE REDUCING STATION DRINKING WATER SUPPLY DWS PRESSURE REDUCING VALVE DRAIN WASTE VENT DWV POUNDS PER SQUARE INCH POUNDS PER SQUARE INCH ATMOSPHERE EXISTING TO REMAIN POUNDS PER SQUARE INCH GAUGE FI FVATION PTRV PRESSURE TEMPERATURE RELIEF ENERGY MONOSERRAT AND POTABLE WATER ENVIROMENTAL PROTECTION AGENCY ENERGY POLICY ACT **EPACT ESCUTCHEON** ROOF DRAIN EMERGENCY SHOWER ROOF DRAIN LEADER EXPANSION TANK ROOF LEADER ELECTRIC WATER COOLER REVERSE OSMOSIS WATER FLECTRIC WATER COOLER RWL RAIN WATER LEADER ELECTRIC WATER HEATER EWS EYE WASH STATION EXISTING SANITARY SEWER SMACNA SHEET METAL AND AIR CONDITIONING FAHRENHEIT CONTRACTORS NATIONAL ASSOCIATION FLOOR CLEANOUT STANDARD CUBIC FOOT/MINUTE FILTERED COLD WATER SOFTENED COLD WATER FCW SCW STORM DRAIN FLOOR DRAIN STORM DRAIN MANHOLE FIRE DEPARTMENT (HOSE) CONNECTION FDC SUMP PUMP SPRINKLER LINE FLOW METER SQUARE FEET FUEL OIL PUMP STAINLESS STEEL FUEL OIL RETURN STORAGE TANK FUEL OIL SUPPLY STORM WATER FUEL OIL VENT FLOOR SINK FLOW SWITCH TEMPERATURE CONTROL VALVE TCV FIXTURE UNITS TEMPERATURE DIFFERENCE TRENCH DRAIN TOTAL DYNAMIC HEAD GALLON TEMPERATURE GRADE CLEANOUTS THERMOSTATIC MIXING VALVE GALLONS PER DAY TRAP PRIMER GALLONS PER HOUR **TSTAT** THERMOSTAT GALLONS PER MINUTE TWR TEMPERED WATER RETURN GAS PRESSURE REGULATOR TWS TEMPERED WATER SUPPLY GAS REGULATOR STATION TYPICAL GREASE TRAP GVTR GAS VENT THROUGH ROOF GAS FIRED WATER HEATER UNIFORM PLUMBING CODE URINAL H&CW HOT AND COLD WATER HOSE BIBB VENT HUB DRAIN VACUUM VAC HEX HEAT EXCHANGER VACUUM BREAKER HORSEPOWER VACUUM CLEANER OUTLET HAND SINK VACUUM PUMP HOT WATER STORAGE TANK (DOMESTIC) VENT STACK HWB HOT WATER BOILER VENT THROUGH ROOF VTR HWCP HOT WATER CIRCULATING PUMP HWP HOT WATER PUMP HYD HYDRANT WASTE WATER CLOSET WALL CLEANOUT INDUSTRIAL COLD WATER ICW WATER GAGE INVFRT WALL HYDRANT INTERNATIONAL PLUMBING CODE WATER HEATER IRRIGATION WATER WHA WATER HAMMER ARRESTER INDIRECT WASTE WATER LINE INSTANTANEOUS WATER HEATER WATER METER INDUSTRIAL WATER RETURN WATER PRESSURE DROP INDUSTRIAL WATER SUPPLY WASTE STACK KILOWATT YARD CLEANOUT KWHR KILOWATT-HOUR YARD HYDRANT ALL SYMBOLS AND ABBREVIATIONS MAY NOT BE INDICATED ON THE DRAWINGS.

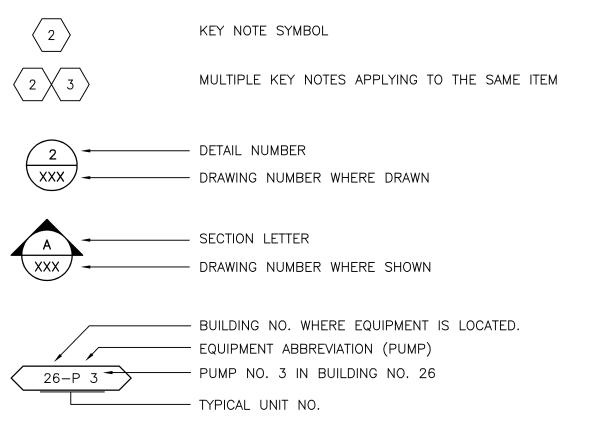
PLUMBING PIPING SYMBOLS —— - - — EXISTING TO REMAIN EXISTING TO BE REMOVED DOMESTIC COLD WATER, COLD WATER DOMESTIC HOT WATER, HOT WATER DOMESTIC HOW WATER RETURN, HOT WATER RETURN ——DHWR——DHWR—— MEDICAL AIR COMPRESSED AIR — са — са — MEDIUM PRESSURE COMPRESSED AIR —— MPA ——— MPA —— HIGH PRESSURE COMPRESSED AIR —— HPA ———— HPA —— MEDICAL VACUUM — v ——— v — LABORATORY AIR — LA ———— LA —— — LV —— LV — LABORATORY VACUUM ___ ov ____ ov ___ ORAL EVACUATION INDUSTRIAL AIR --- IA ----- IA ---— D — — D — SANITARY SEWER —— SAN ——— SAN —— SANITARY SEWER (OPTIONAL) — ss ——— ss — SANITARY SEWER, BELOW GRADE —— SAN— —— SAN— SANITARY VENT -----STORM WATER — SD — SD — STORM WATER, BELOW GRADE — SD — — SD — PERIMETER OR UNDERSLAB DRAIN TILE — pt — — pt — SOFTEN COLD WATER —— SCW———— SCW—— FILTERED COLD WATER —___FCW—____FCW—_ REVERSE OSMOSIS WATER SUPPLY REVERSE OSMOSIS WATER RETURN TEMPERED WATER SUPPLY TEMPERED WATER RETURN —— TWR ——— TWR —— NITROUS OXIDE ----N20-----N20----— N2 — N2 — NITROGEN LIQUEFIED PETROLEUM (LP) GAS — NG — NG — NATURAL GAS --- NG ---- NG --- NATURAL GAS, BELOW GRADE ____ LW _____ LW ____ LABORATORY WASTE LABORATORY WASTE BELOW GRADE — LW — — LW — ---LW-----LW--- LABORATORY WASTE VENT PLUMBING VALVE SYMBOLS

DIRECTION OF PIPE PITCH (DOWN) DIRECTION OF FLOW ANCHOR REDUCER OR INCREASER ECCENTRIC REDUCER TOP CONNECTION, 45° OR 90° BOTTOM CONNECTION, 45° OR 90° SIDE CONNECTION CAPPED OUTLET RISE OR DROP IN PIPE UNION PIPE UP PIPE DOWN POINT OF CONNECTION TO EXISTING WORK LIMIT OF DEMOLITION STRAINER THERMOMETER PRESSURE GAGE ______(FE)_____ FLOW ELEMENT co **O**-----CLEAN OUT HOSE BIB FLOOR DRAIN

GENERAL PLUMBING SYMBOLS

—— 以 ——	BALANCING VALVE
$-\!-\!$	GATE VALVE (ISOLATION VALVE)
$\longrightarrow \bowtie \vdash \sqsubseteq$	ISOLATION VALVE WITH 3/4 " HOSE ADAPTER
	CHECK VALVE
X I-	ANGLE GLOBE VALVE
——/ /	BUTTERFLY VALVE
	BALL VALVE
——————————————————————————————————————	MODULATING CONTROL VALVE
Z	TWO POSITION CONTROL VALVE
	THREE-WAY MODULATING CONTROL VALVE
——————————————————————————————————————	THREE-WAY TWO POSITION CONTROL VALVE
	PRESSURE REGULATING VALVE
——ID	AUTOMATIC FLOW CONTROL VALVE
→	PRESSURE RELIEF VALVE
*	MANUAL AIR VENT
	TEST PLUG (PRESSURE/TEMPERATURE)
AV	AUTOMATIC AIR VENT

DRAWING SYMBOLS



———— PIPE SYSTEM

1 RISER NUMBER

GENERAL NOTES

<u>GENERAL</u>

- 1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, INVERTS, PIPE SIZES AND MATERIALS, FLUID FLOW DIRECTION(S) AND CONDITIONS AT THE SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO BEGINNING INSTALLATION OR FABRICATION WORK. (DO NOT SCALE DRAWINGS).
- 2. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES EVEN IF THE UTILITIES ARE NOT SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL REPAIR ALL DAMAGES AT THEIR OWN EXPENSE AND WILL BE RESPONSIBLE FOR ANY ADDITIONAL DAMAGES CAUSED BY A SYSTEM BEING DOWN.
- 3. THIS INSTALLATION WILL CONFORM TO ALL CODES AND THE REQUIREMENTS OF FEDERAL, STATE, AND LOCAL REGULATORY AGENCIES HAVING JURISDICTION.
- 4. INSTALL ALL PRODUCTS IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS, CONTRACT DOCUMENTS AND THE APPLICABLE CODES, STANDARDS AND REGULATIONS.
- 5. THE CONTRACTOR WILL BE RESPONSIBLE FOR ENSURING THAT ALL RULES AND REGULATIONS, INCLUDING THOSE WHICH MAY BE ISSUED BY THE OWNER, ARE BEING OBSERVED. PARTICULARLY WORKPLACE SAFETY AND THE CONDUCT OF ALL THOSE EMPLOYED DIRECTLY AND INDIRECTLY BY HIM ON THE PREMISES, AND THE OWNER'S EMPLOYEES WHO MAY BE IMPACTED OR AFFECTED BY CONSTRUCTION ACTIVITIES. THE CONTRACTOR WILL INSTALL SIGNAGE, TEMPORARY FENCES, BARRIERS, AND OTHER MEANS TO PROVIDE WARNING AND PERSONNEL SAFETY. PLACEMENT OF THESE ITEMS WILL BE COORDINATED WITH THE OWNER AND HIS ONGOING OPERATIONS AND WILL PROMPTLY BE RESTORED WHEN WORK IN A
- 6. ALL WORK WILL BE LAWFULLY EXECUTED IN A NEAT AND WORKMANLIKE MANNER AND WILL BE DONE IN ACCORDANCE WITH THE GOVERNING CODES, INDUSTRY STANDARDS AND IN CONFORMANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND REQUIREMENTS.
- 7. WORK UNDER THIS CONTRACT SHALL CONSIST OF THE CONTRACTOR PROVIDING ALL LABOR, MATERIALS, AND SERVICES, INCLUDING WORK NOT SPECIFICALLY SHOWN BUT REASONABLY
- 8. WORK ALL DRAWINGS WITH THE PROJECT SPECIFICATIONS.

PARTICULAR AREA HAS BEEN COMPLETED.

9. PIPING RISING WITHIN A STORY IS DESIGNATED AS "RISE". PIPING RISING TO ANOTHER STORY IS NOTED AS "UP". PIPING DROPPING WITHIN A STORY IS NOTED AS "DROP". PIPING DROPPING TO ANOTHER STORY IS NOTED AS "DN".

PLUMBING NOTES

- 1. ALL PIPING MATERIALS AND COMPONENTS INCLUDING FITTINGS, PIPE, FLANGES, VALVES, ETC. SHALL BE DESIGNATED, FABRICATED AND INSTALLED PER THE APPROPRIATE SECTIONS OF THE LATEST CODES, VETERAN'S AFFAIRS PLUMBING STANDARDS AND PROJECT CONTRACT DOCUMENTS.
- 2. ALL SANITARY SEWERS 3" AND SMALLER SHALL SLOPE 1/4" PER FOOT (MIN), ALL SANITARY SEWERS 4" AND LARGER SHALL SLOPE 1/8" PER FOOT (MIN.) IN THE DIRECTION OF FLOW.
- 3. ALL HORIZONTALLY ROUTED WASTE VENTS SHALL BE INSTALLED WITH A SLOPE TO FACILITATE GRAVITY DRAINAGE TO THE WASTE SYSTEM.
- 4. ALL CLEANOUTS INSTALLED IN THE SEWER SYSTEM SHALL BE SIZED AS FOLLOWS: <u>PIPE SIZE</u> <u>SIZE OF CLEANOUT</u>

2 1/2"

- 5. CLEANOUTS INSTALLED IN HORIZONTAL DRAINAGE PIPING SHALL BE SPACED AT INTERVALS NOT EXCEEDING 100'.
- 6. THE MAXIMUM VERTICAL DISTANCE FROM THE FIXTURE OUTLET (LAVATORY, FLOOR DRAIN ETC.) TO THE TRAP WEIR SHALL BE 24".
- 7. SURFACES TO BE SOLDERED SHALL BE CLEANED BRIGHT. THE JOINTS SHALL BE PROPERLY FLUXED AND MADE WITH APPROVED SOLDER. SOLDER JOINTS FOR POTABLE WATER SHALL BE MADE WITH A SOLDER CONTAINING NOT MORE THAN 0.2 PERCENT LEAD.
- 8. UNIONS SHALL BE INSTALLED AT ALL EQUIPMENT. THE USE OF DIELECTRIC UNIONS AND FLANGES MUST BE INSTALLED IN AREAS WHERE JOINING OF DISSIMILAR METALS (ie CARBON STEEL TO COPPER OR BRONZE, ETC.) THIS IS TO FACILITATE PIPING REMOVAL AND
- REASSEMBLY FOR FUTURE MAINTENANCE WORK AND/OR PREVENT GALVANIC CORROSION. 9. CONTRACTOR SHALL PROPERLY BRACE, ANCHOR, AND SUPPORT ALL PIPING, VALVES ETC. IN
- 10. PIPE SUPPORT SPACING SHALL BE IN ACCORDANCE WITH MSS-58.
- 11. ALL POTABLE WATER BRANCHES SHALL BE INSTALLED WITH ISOLATION VALVES CLOSE TO MAIN.
- 12. ALL PLUMBING FIXTURES SHALL BE PROVIDED WITH WATER ISOLATION VALVES.
- 13. CONTRACTOR SHALL PROVIDE WALL ACCESS COVERS TO ALL CLEANOUTS AND VALVES LOCATED
- 14. ALL WATER SUPPLY AND DRAIN PIPES UNDER LAVATORIES SHALL BE PROTECTED IN
- ACCORDANCE WITH SPECIFICATIONS.

WITHIN WALLS.

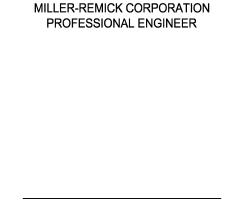
ACCORDANCE WITH MSS SP-58.

- 15. ALL PIPES OR TUBING WHICH PASS THROUGH RATED AND NON-RATED WALLS, FLOORS AND FOUNDATION WALLS, SHALL PASS THROUGH A SCHEDULE 40 CARBON STEEL PIPE SLEEVE. SLEEVES WHICH PASS THROUGH MASONRY SHALL BE GALVANIZED COATED. ALL SLEEVES SHALL BE INSTALLED FLUSH ON BOTH SIDES OF WALL PENETRATION. NON-RATED WALLS: THE SLEEVE SHALL BE SIZED TO ALLOW FREE PASSAGE OF INSULATED AND NON-INSULATED PIPES AND TUBING. RATED WALLS: PIPES WHICH PASS THROUGH FIRE-RATED WALLS & FLOOR SHALL USE THE APPROPRIATE DETAILED INSTALLATION METHOD OF SEALING WHILE MAINTAINING THE INTEGRITY OF THE WALL'S FIRE RATING(S). EXTENSION WALLS & FOUNDATION: PIPES WHICH PASS THROUGH EXTENSION WALLS OR FOUNDATION WALLS SHALL BE SEALED AND MADE WEATHER-TIGHT.
- 16. INSULATE COLD AND HOT WATER PIPING PER THE PROJECT DOCUMENTS WITH FIRE RETARDANT VAPOR BARRIER JACKET. PIPE INSULATION SHALL BE SEALED WITH A FIRE RESISTIVE ADHESIVE.
- 17. CONTRACTOR IS RESPONSIBLE FOR ALL TESTING AND COORDINATION OF INSPECTIONS OF THE ENTIRE POTABLE WATER, SANITARY SEWER AND VENT SYSTEMS. TESTING SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND THE INTERNATIONAL PLUMBING CODE.
- 18. ALL PIPING AND VALVES SHALL BE PROPERLY IDENTIFIED, LABELED AND TAGGED. CONTRACTOR SHALL SUBMIT VALVE TAG LIST PER SPECIFICATIONS.
- 19. CONTRACTOR SHALL FLUSH AND DISINFECT THE ENTIRE POTABLE WATER SYSTEM. FLUSHING AND DISINFECTION OF THE POTABLE WATER SYSTEM SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND THE INTERNATIONAL PLUMBING CODE.
- 20. PROVIDE THREE (3) ELBOW SWING JOINTS FOR ALL DOMESTIC HOT WATER CONNECTIONS TO THE MAIN.
- 21. CONTRACTOR SHALL PROVIDE AND INSTALL THERMAL EXPANSION/CONTRACTION COMPENSATION IN THE DOMESTIC HOT WATER AND RECIRCULATION SYSTEMS, LIMITING THE MAXIMUM MOVEMENT TO 1 1/2" OR LESS. ANCHORS & RESTRAINTS SHALL BE INSTALLED WHERE NECESSARY. ALL PIPES SHALL BE PROPERLY GUIDED INTO THE THERMAL EXPANSION LOOPS OR COMPENSATORS.
- 22. NO PRESSURIZED PIPING SHALL BE TERMINATED AND ABANDONED IN A WALL OR OTHER INACCESSIBLE AREA. ALL TERMINATIONS SHALL INCLUDE REMOVAL OF PIPING BACK TO AN EASILY ACCESSIBLE AREA WHERE THE TERMINATION SHALL BE MADE.
- 23. ALL FIXTURES SUPPLIED WITH DOMESTIC USE HOT WATER SHALL BE PROVIDED WITH A MIXING VALVE AND ANTI-SCALD DEVICE TO LIMIT OUTLET WATER TEMPERATURE TO 110 DEG. F. IN ACCORDANCE WITH VA DIRECTIVE 1061.

100% CONTRACT DOCUMENTS FULLY SPRINKLERED







PLUMBING SYMBOLS, ABBREVIATIONS, Reviewed: Facility Director AND GENERAL NOTES Approved: Project Director

Drawing Title

RENOVATION

Project Title **AUDIOLOGY LAB**

MC

05-19-2014 528A7-13-750 DRAWING NO.



VA FORM 08-6231

Date

Reviewed: Facility Manager

NO. VAMC SYRACUSE, NY

